UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/508,379	06/08/2000	AVRAHAM A. LEVY	035763/0107	7437

7590 11/05/2002

SOL SHEINBEIN
G.E. EHRLISH (1995) Ltd. c/o ANTHONY CASTORINA
2001 JEFFERSON DAVIS HIGHWAY
SUITE 207
ARLINGTON, VA 22202

EXAMINER	
IBRAHIM, MEDINA AHMED	
ART UNIT	**PAPER NUMBER**
1638	

DATE MAILED: 11/05/2002 18

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/508,379	LEVY ET AL.	
	Examiner	Art Unit	
	Medina A Ibrahim	1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *1,2,7-11,14,18-21,26-31,33-40 and 45* is/are pending in the application.

4a) Of the above claim(s) *9-11,18-21,26-31,33-36 and 45* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-2, 7-8, 14, 37-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 17.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Applicants' response to the Office action mailed 02/13/02 has been entered. The IDS filed 09/15/02 has been considered. Initialed and dated copy of the IDS form 1449 is attached to the instant Office action. Claims 3-6, 12, 13, 15-17, 22-25, 32 and 41-44 have been cancelled. Therefore, claims 1-2, 7-11, 14, 18-21, 26-31, 33-40, and 45 are pending.

Claims 1-2, 7-8, 14, 37-40 are under examination.

Claims 9-11, 18-21, 26-31, 33-36 and 45 are withdrawn from consideration as being drawn to the non-elected invention.

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

All objections and rejections not stated below have been withdrawn.

Claim Rejections - 35 USC § 112

2. Claims 1-2, 7-8 and 37-40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claims 1 and 37 are indefinite because of the recitation of "utilizing" without active positive steps delimiting how this use is actually practiced. The recitation of "maturation" to produce viable seeds is not a characteristic. It is suggested that "maturation" be replaced with ---mature--, or "maturation to produce" be replaced with --at maturation produces--. The claims also recite "capability of being crossed ..." which is unclear. If Applicant intends " having combining ability" when crossed with a

commercial plant of the same species, then, the claims should be amended to recite as such. Dependent claims 2, 7-8 and 38-40 are included in the rejection.

In claim 14, what is a "distinct mutation" and how may it differ from a "mutation"? The claim also recites improper Markush terminology. It is suggested that "or" before "irradiation" be replaced with --and--, for proper Markush terminology.

Claim Rejections - 35 USC § 112

4. Claims 1, 7-8 and 37-39 remain rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method of producing a mutant miniature tomato plant having a desired characteristics, does not reasonably provide enablement for a method that employs any mutant miniature plant species, other than *L.esculentum* species. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and /or use the invention commensurate in scope with these claims. This rejection is repeated for the same reasons as set forth in pages 4-10 of the last Office action. Applicants' arguments as set forth in pages 4-6 of the response have been fully considered but are not persuasive.

5. Applicants argue that the instantly claimed method does not necessarily involve the generation of miniature plants but rather the use of such plants for selection of commercially important traits. Therefore, Applicants continue, how such plants are generated is not important (page 4 of the response). Applicants' arguments are not persuasive because of the following reasons: firstly, since Applicant has not shown that a population of miniature plants of any plant species with the characteristics of "reduced

in size as compared to a commercial plant of the same species", "maturation to produce viable seeds or tubers at a density of at least ten-fold higher than the standard conditions used for commercial plants and "capable of being crossed of a commercial plant of the same species" (as a starting material) is commercially available , an enabling method (which neither the instant specification nor the prior art disclosed) for generating said any miniature plant species is important. Secondly, step (b) of the claimed method requires mutagenesis of the miniature plants with chemical and radiation mutagens. However, the specification provides guidance only for the production and screening of tomato mutant plants having the characteristics set forth in the claims, mutagenesis of said tomato plants by EMS, breeding and selection of mutant miniature tomato for a desired agronomic trait. No guidance has been provided regarding the suitability of the disclosed method using plant species other than tomato. Thirdly, the claims require that the mutant miniature plants are capable of being crossed with a commercial plant of the same species to produce a mutant miniature plant having a desired trait from the commercial plant. The working example disclosed in the specification is limited to the production of mutant miniature tomato plants made with *L.esculentum* and Micro-Tom. Micro-Tom is a distinct class of dwarf tomato with characteristics of diminutive in plant height, fruit and leaf size. The specification does not disclose any other plant species with such characteristics. The state of the prior art does not amend the deficiency. Therefore, absent the availability of miniature plants with said specific characteristics, one skilled in the art would not be able to produce mutant miniature plants of any plant species, without undue experimentations. In

addition, the state of the prior art as exemplified by Bennett et al (1995) disclosed in the paragraph bridging pages 7 and 8 of the last Office action teach that the introgression of a desired gene from one plant genetic background to another plant of the same species to provide a desired trait is unpredictable. See also, Hunsperger et al (1996), also disclosed in page 8 of the last Office action.

6. Therefore, absent further guidance regarding the production of a mutant miniature plant other mutant miniature tomato plants, one skilled in the art would not be able to make and use the invention as broadly claimed without undue experimentations. The rejection is maintained.

New Matter

7. Claims 1 and 37 (and dependents 2, 7-8 and 38-40) are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 1 and 37, part (i), recite "uniformly" reduced size. The word "uniformly" has no basis in the specification or in the claims as originally filed. This is a new matter. Applicants are required to cancel the new matter, "uniformly", since it has no basis in the specification or in the claims as originally filed.

Claim Rejections - 35 USC § 102/103

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claim 14 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Scott et al (HortScience, Vol.30, no.3, pages 643-644, 1995). The claim is drawn to mutant miniature tomato plant population wherein each miniature tomato plant carries in its genome mutation induced by a chemical mutgen or irradiation. Scot et al teach the miniature *Lycopersicon esculentum* tomato cultivars "Micro-Tom", "Micro-Gold", "Florida-Petite" or "Florida basket" which would inherently contain one additional mutation produced by spontaneous mutation or somaclonal variation induced by tissue culture. See In re Thorpe, 227 USPQ 964, 966 (Fed. Cir. 1985), which teaches that a product-by process claim may be properly rejected over prior art teaching the same product produced by a different process, if the process of making the product fails to distinguish the products.

Remarks

11. Claims 1-2, 7-8, , and 37-40 are free of the prior art of record, in view of arguments in the amendment of 12 August 2002 distinguishing "dwarf" from "miniature".

12. Claims 2 and 40 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

13. Papers related to this application may be submitted to Technology Sector 1 by facsimile transmission. Papers should be faxed to Crystal Mall 1, Art Unit 1638, using fax number (703) 308-4242. All Technology Sector 1 fax machines are available to receive transmission 24 hrs/day, 7 days/wk. Please note that the faxing of such papers must conform with the Notice published in the Official Gazette, 1096 OG 30 (November 15, 1989).

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Medina A. Ibrahim whose telephone number is (703) 306-5822. The Examiner can normally be reached Monday-Thursday from 8:30AM to 5:30PM and every other Friday 9:00AM to 5:00PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Dr. Amy Nelson, can be reached at (703) 306-3218.

Any inquiry of a general nature or relating to the status of this application should be directed to the receptionist whose telephone number is (703) 308-0196.

11/1/02
Mai

DAVID T. FOX
PRIMARY EXAMINER
GROUP ~~180~~ 1638